

- 4) the genes are operable linked with a seed-specific promoter;
- 5) compositions comprising arachidonic acid may be extracted from the plants;
- 6) additional nucleic acid sequences, such as sequences inhibiting  $\Delta 15$  desaturase expression, may be transformed into the plants to improve arachidonic acid production; and
- 7) arachidonic acid may be produced from plant parts or the offspring of the transformed plants.

Office Action, pages 5-6.

Applicants believe that the amended claims are novel over cited reference. For prior art to anticipate a claim, the reference must disclose each and every element of the claim explicitly or inherently. *See, e.g., In re Rijckaert*, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993).

Claim 1 as amended recites, *inter alia*, an arachidonic acid-containing plant expressing at least a  $\Delta 6$  desaturase, a fatty-acid-chain elongase, and a  $\Delta 5$  desaturase, each of which has the claimed sequence. Mukerji discloses a transgenic plant that (1) expresses a  $\Delta 5$ -desaturase gene, and (2) is capable of producing arachidonic acid. *See* Mukerji, Example 3, pages 22-23, and Table 1, page 25. However, Mukerji does not describe any fatty-acid-chain elongase gene. Thus, Mukerji cannot disclose a plant expressing all three recited genes—a  $\Delta 6$  desaturase, a fatty-acid-chain elongase, and a  $\Delta 5$  desaturase. Accordingly, Mukerji fails to disclose each and every element of claim 1.

Further, claim 1 as amended recites, *inter alia*, that the fatty acid synthetases associated with the biosynthesis of arachidonic acid—a  $\Delta 6$  desaturase, a fatty-acid-chain elongase, and a  $\Delta 5$  desaturase—have the amino acid sequences of SEQ ID NOS: 1, 3, and 5, respectively. The Office indicates in the Advisory Action mailed October 27, 2010, and the Office Action mailed July 16, 2010, that the amino acid sequences of SEQ ID NOS: 1, 3, and 5 are free of the prior art. Thus, amended claim 1 is novel over Mukerji.

Given at least these arguments, amended claim 1 is novel. Dependent claims 7, 9, 11-13, 15-17, and 21-22 are likewise novel. Claims 6, 8, 10, and 18-20 are canceled, mooted the

rejection. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

### CONCLUSION

In view of the above arguments and amendments to the claims, Applicant submits that the claims are in condition for allowance and respectfully request reconsideration and timely allowance of the claims.


Should the Office have any questions or comments regarding Applicant's amendments or response, please contact Applicant's undersigned representative at (202) 230-5119. Furthermore, please direct all correspondence to the below-listed address.

In the event that the Office believes that there are fees outstanding in the above-referenced matter and for purposes of maintaining pendency of the application, the Office is authorized to charge the outstanding fees to Deposit Account No. 50-0573. The Office is likewise authorized to credit any overpayment to the same Deposit Account Number. If an Appeal fee is required to maintain pendency of the present application, the Office is authorized to charge the Appeal fee to the deposit account above and use this paper as a constructive Notice of Appeal.

Respectfully Submitted,

Date: November 29, 2010

By: \_\_\_\_\_

  
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